

FIG. 1 (PRIOR ART)

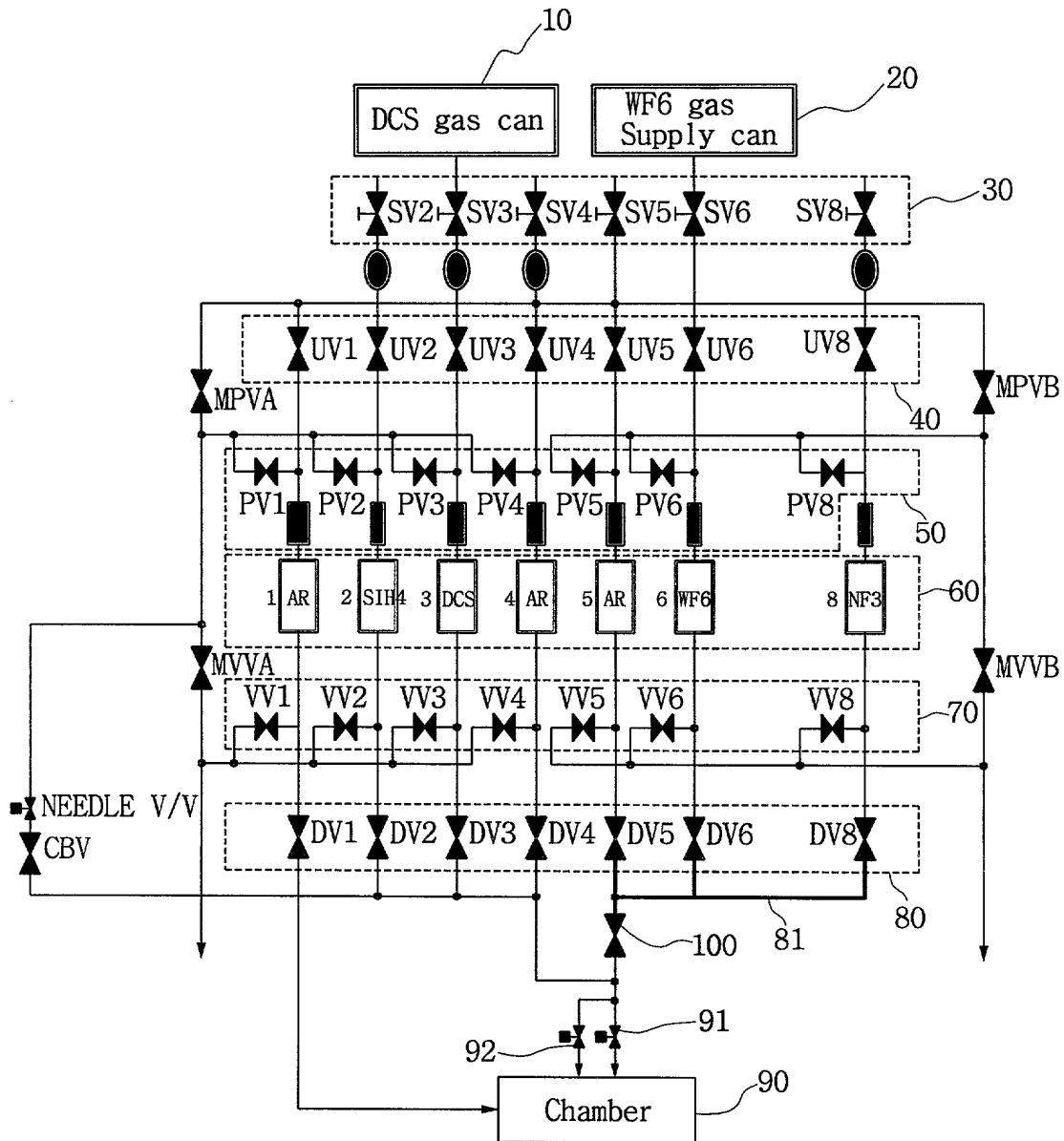


FIG. 2

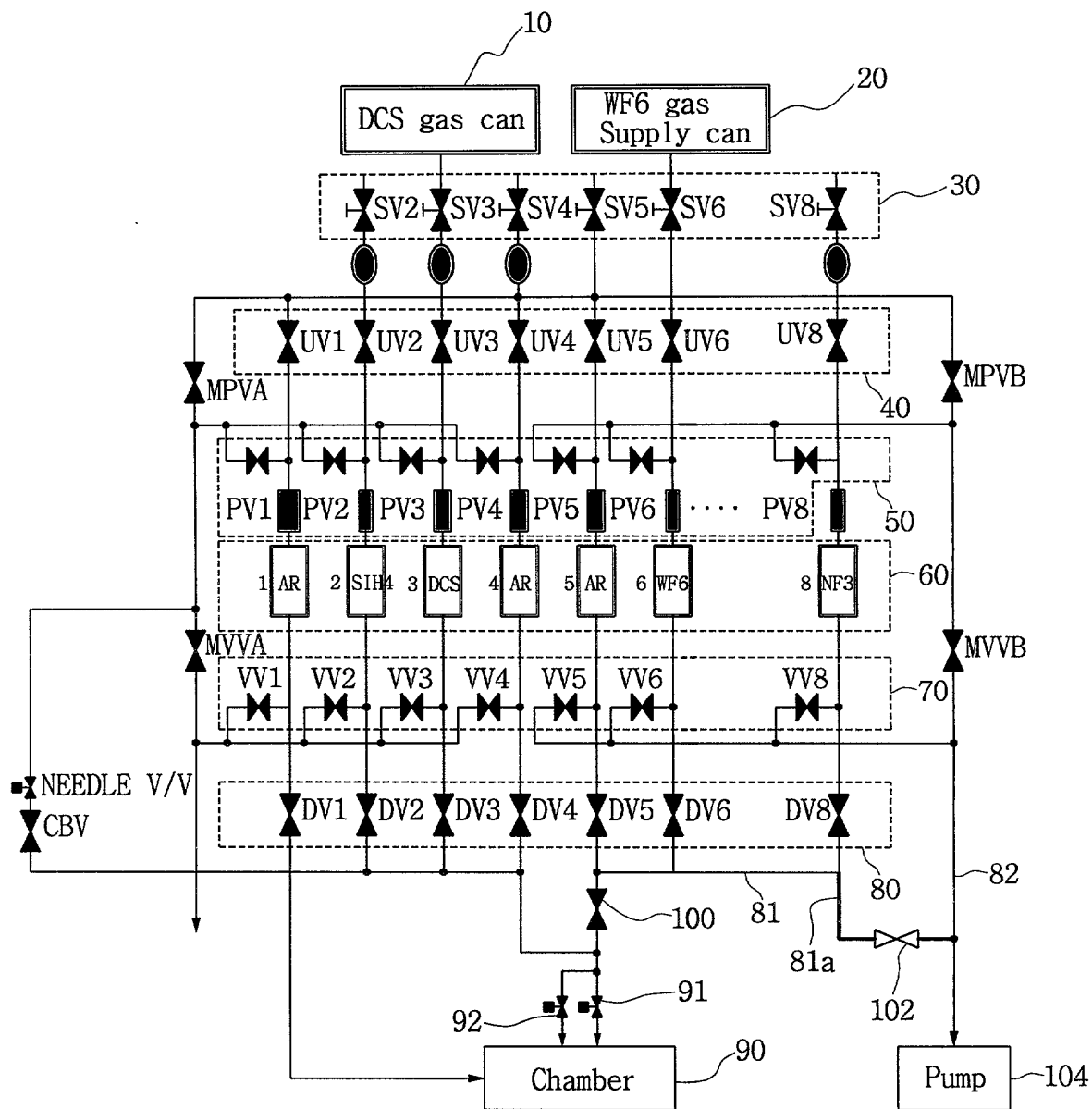


FIG.3

	Step Name	Time (sec)	Press (mtorr)	HIVAC	BsAr	SiH <sub>4</sub>	DCS	4Ar	5Ar	WF <sub>6</sub>	VALVE OPEN
1	P/D	20	0	E	50(v)	0	0	50(v)	50(v)	0	UV1, 4, 5 VV1, 4, 5 LSV
2	Heat Up	20	300	D	50	0	0	500	500	0	UV1, 4, 5 DV1, 4, 5 LSV
3	Heat Up	30	300	D		0	0	500	500	0	UV1, 4, 5 DV1, 4, 5 LSV
4	SiH <sub>4</sub> vent	3	300	D	50	300(v)	0	500	500	0	UV1, 2, 4, 5 DV1, 4, 5 VV2 LSV
5	SiH <sub>4</sub> flush	40	300	D	50	300	0	500	200	0	UV1, 2, 4, 5 DV1, 2, 4, 5 LSV
6	P/D	20	0	E	0	0	0	0	0	0	
7	DCS vent	5	0	E	50(v)	0	50(v)	50(v)	50(v)	0	UV1, 3, 4, 5 VV1, 3, 4, 5 LSV
8	DCS flush	10	120	D	100	0	106	500	300	5.5(v)	UV1, 3, 4, 5, 6 DV1, 3, 4, 5 VV6 LSV
9	Nucleation	12	120	D	100	0	106	500	300	5.5	UV1, 3, 4, 5, 6 DV1, 3, 4, 5, 6 LSV
10	Bulk	20	120	D	100	0	185	500	300	13	UV1, 3, 4, 5, 6 DV 1, 3, 4, 5, 6 LSV
11	DCS Post	3	120	D	100	0	175	500	300	0	UV1, 3, 4, 5 DV1, 3, 4, 5 LSV
12	Ar Purge	15	120	D	100	0	0	500	5000	0	UV1, 4, 5 DV1, 4, 5 LSV
13	P/D	15	0	E	0	0	0	0	0	0	
14	SiH <sub>4</sub> Post	3	120	D	100	300	0	500	200	0	UV1, 2, 4, 5 DV1, 2, 4, 5 LSV
15	P/D	30	0	E	0	0	0	0	0	0	

Note:

MFC1,2,3,4 and MFC5,6,8 are divided into GAS BOX A and B.

GAS flowing out of GAS BOX A and B joins one GAS LINE and is again divided into INNER and OUTER NIDDLE V/V.

INNER NIDDLE V/V is FULL OPENDE, and OUTER NIDDLE V/V is controllide in the range of 15 to 25mm to maintain UNIFORMITY.

(v) is vented through VENT VALVE .

HIVAC(E) is pumped by turbo pump, pumping (D) is dry-pumped by dry-pump without turbo- pump.